Fall 2018 Levee Maintenance Deficiency Summary Report

Overall LMA & Unit Ratings, including USACE Erosion Survey

Sacramento River Basin

** SBFCA currently has operation and maintenance obligations during project construction and closeout.

ST0005	Overall LMA	Total LMA						
Sutter Maintenance Yard Hamilton Bend	Rating	Miles						
Sutter Maintenance Fard Hammon Bend	U	3.39						
5	Maintenance Deficiency			Enforcement		Design & System Obsolescence		
Rated Item	M Miles	U Miles	M + 4U Miles	Threshold %	M Miles	U Miles	M Miles	U Miles
Earthen Levee								
Vegetation	0.50	1.13	5.02	147.89%				
Trim / Thin Trees	0.04	2.28	9.16	269.85%				
Supplemental								
DWR UCIP Field Study					0.02			
LMA Totals:	0.54	3.41	14.18	417.73%	0.02	0.00	0.00	0.00
Unit No. 01 Feather River Hamilton	Overall Unit	Total Unit						
Bend RB	Doting	N 1:1						
DOING IND	Rating	Miles						
ST0005	U	3.39						
ST0005		3.39	nce Deficiency		Enforc	ement	Design & Obsole	
		3.39	nce Deficiency M + 4U Miles	Threshold %	Enforce M Miles	ement U Miles		
ST0005	U	3.39 Maintena		Threshold %			Obsoles	scence
ST0005 Rated Item	U	3.39 Maintena		Threshold %			Obsoles	scence
ST0005 Rated Item Earthen Levee	U M Miles	3.39 Maintena U Miles	M + 4U Miles				Obsoles	scence
ST0005 Rated Item Earthen Levee Vegetation	M Miles	3.39 Maintena U Miles	M + 4U Miles 5.02	147.89%			Obsoles	scence
Rated Item Earthen Levee Vegetation Trim / Thin Trees	M Miles	3.39 Maintena U Miles	M + 4U Miles 5.02	147.89%			Obsoles	scence

LMA District Cover Sheet

Fall 2018 Levee Inspection Results

Sutter Maintenance Yard Hamilton Bend

	Spring (March - May)	Summer ** (June - August)	Fall (September - November)	Winter ** (December - February)
† Overall LMA Rating (Fall Only)			U	
	** Non-receipt of Summ Reports may effect or			
† SPRING INSPECTIONS: Overall maintenance deficiencies are rated	ratings are not determ			ual maintenance

FALL INSPECTIONS: The overall maintenance rating shown above is based on operation and maintenance deficiencies identified

within the attached unit inspection reports. This rating is not intended to be an indiction of risk.

Comments		

Unit Cover Sheet

Fall 2018 Levee Inspection Results

Sutter Maintenance Yard Hamilton Bend

Waterway	Bank	Unit Miles
Unit No. 01 Feather River Hamilton Bend	Right	3.39

	Spring (March - May)	Summer (June - August)	(September - November) Fall	Winter (December - February)
Unit Maintenance Rating (Fall Only)			U	
Date of Inspection	3/20/2018 - 3/20/2018		9/6/2018 - 9/6/2018	
DWR Inspector	Sterling York		Sterling York	
Accompanied By	Shawn Freitag Sutter Maintenance Yard		Shawn Freitag Sutter Maintenance Yard	

Summer & Winter Inspections

The Local Maintaining Agency (LMA) is responsible for summer and winter inspections. The LMA is required to submit a report regarding summer and winter inspections to the California Department of Water Resources (DWR).

DWR must be informed on the:

- a) completion of the inspection
- b) any changes other than the results of normal maintenance
- c) corrections to deficiencies noted in this report

If additional items are noted, further documentation of those items must also be submitted.

The LMA should submit this information to DWR using the LMA web application tool available at:

http://cdec.water.ca.gov/lma.html

If the LMA is unable to submit information on this webpage, please contact DWR for assistance.

The LMA should submit the information and any associated documentation by September 30 for summer inspections and March 31 for winter inspections.

Levee Inspection Report By Mile - Fall 2018

Sutter Maintenance Yard Hamilton Bend

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Feather River Hamilton Bend	Right	3.39	09/06/2018 09/06/2018	Sterling York

LM Start		Rating **	Α	Issue No.		7	
LM End		Issue Type +	Ma	Location *			
Category	Earthen L	evee		GPS La	atitude	e/Longitude	
Category				Start		End	
Item	Operations & Maintenance						0
пеш	Manuals				0		0
DWR ID	DWR_ST00	005_01_s _ 201	3_7				
		Comn	nent Cod	de			
		Inspecto	or Comm	nent			
O&M man	ual is locat	ed at the Sutt	er Maint	enance Yar	d.		

No Photos

LM Start		Rating **	Α	Issue No.		8	
LM End		Issue Type +	Ma	Location *			
Category	Earthen L	evee		GPS La	atitud	le/Longitude	
Calegory				Start		End	
Item		y Supplies &			0		0
пеш	Equipmen	it			0		0
DWR ID	DWR_ST00	005_01_s _ 201	3_8				
		Comn	nent Cod	le			

No Photos

Inspector Comment
Emergency supplies and equipment are stored at the Sutter
Maintenance Yard.

	I	5					
LM Start		Rating **	Α	Issue No.		9	
LM End		Issue Type +	Ma	Location *			
Category	Earthen L	evee		GPS La	atituc	de/Longitude	
Category				Start		End	
Item	Flood Pre	paredness &	Training		0		0
item					0		0
DWR ID	DWR_ST0	005_01_s _ 201	3_9				
		Comn	nent Cod	le			
	Inspector Comment						
		Yard employe I inspector Bo		d the annua	l Flo	ood Fight	

No Photos

Levee Inspection Report By Mile - Fall 2018

Sutter Maintenance Yard Hamilton Bend

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Feather River Hamilton Bend	Right	3.39	09/06/2018 09/06/2018	Sterling York

LM Start	0.02	Rating **	Α	Issue No.		3
LM End	1.21	Issue Type +	Ма	Location *		LS
Category	Earthen L	evee	GPS Latitude/Longitude			
Calegory				Start		End
Item	Vegetatio	n		39.43996	0°	39.456723°
пеш				-121.64143	9°	-121.639323°
DWR ID	DWR_ST0	005_01_f _ 2018	3_3			

Comment Code

V1: Control annual grass and weeds on the levee slopes and easements.

Inspector Comment

Maintained annual vegetation, this section is sprayed but not mowed due to the cobbles, Fall 2018.

Photo 1 of 1: FA_2018_ST0005_289_3_20181003_00015.jpg



View looking upstream landside of the maintained annual vegetation, this section is sprayed but not mowed due to the cobbles, Fall 2018.

LM Start	0.02	Rating **	Α	Issue No.		5
LM End	1.21	Issue Type +	Ма	Location *		WS
Category	Earthen L	evee	GPS Latitude/Longitude			
Calegory				Start		End
Item	Vegetatio	n		39.4399	60°	39.456723°
item				-121.6414	39°	-121.639323°
DWR ID	DWR_ST0	005_01_f _ 2018	3_5			·

Comment Code

V1: Control annual grass and weeds on the levee slopes and easements.

Inspector Comment

Maintained annual vegetation, this section is sprayed but not mowed due to the cobbles, Fall 2018.

Photo 1 of 1: FA_2018_ST0005_289_5_20181003_00016.jpg



View looking upstream waterside of the maintained annual vegetation, this section is sprayed but not mowed due to the cobbles, Fall 2018.

LM Start	0.19	Rating **	M	Issue No.		15	
LM End	0.19	Issue Type +	Ma	Location *	WS		
Category	Earthen L	evee		GPS La	tituc	de/Longitude	
Calegory			Start		End		
Item	Vegetatio	n		39.4424	35 °	39.442435	c
пеш				-121.6417	60°	-121.641760	c
DWR ID	DWR_ST0	005_01_s _ 201	5_15				

Comment Code

V4: Elderberries are blocking visibility and flood fight capability.

Inspector Comment

No Photos

Location

N/A: Not Applicable LS: Land Side

WS: Water Side CR : Crown

U : Unacceptable

Acceptable Minimally Acceptable N : Not Inspected/Rated

C : Corrected A/W : Acceptable but Monitor & Maintain + Issue Type

Ma : Maintenance Deficiency Ob : Design & System Obsolescence

Page 2 of 9

En: Enforcement

Levee Inspection Report By Mile - Fall 2018

Sutter Maintenance Yard Hamilton Bend

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Feather River Hamilton Bend	Right	3.39	09/06/2018 09/06/2018	Sterling York

LM Start	0.70	Rating **	М	Issue No.		16	_
LM End	0.70	Issue Type +	Ma	Location *		WS	_
0-4	Earthen L	evee		GPS Latitude/Longitude			
Category				Start		End	
Item	Vegetatio	n		39.449623°		39.449623	0
пеш				-121.6409	940°	-121.640940	0
DWR ID	DWR_ST0	005_01_s _ 201	7_16				
		Comn	nent Cod	de			
V4 : Elderl	perries are	blocking visib	ility and	flood fight	capa	ability.	
		Inspecto	or Comm	nent			

No Photos

LM Start	0.73	Rating **	A/W	Issue No.		14		
LM End	0.91	Issue Type +	Ma	Location *		WS		
Category	Earthen L	evee		GPS La	titud	e/Longitude		
Category				Start	End			
Item	Trim / Thin Trees		39.4501	09°	39.452643	0		
пеш				-121.6408	51 °	-121.640316	0	
DWR ID	DWR_ST0	005_01_s _ 201	6_14					
	Comment Code							

T3 : Trim and thin trees to allow visibility of the ground and room to flood fight.

Inspector Comment

Small trees 4" in diameter at chest height have been sprayed and should be removed, Fall 2018.

Photo 1 of 1: FA_2018_ST0005_289_14_20180918_00005.jpg



View looking upstream waterside of trees. Small trees 4" in diameter at chest height have been sprayed and should be removed, Spring 2018.

Page 4 of 9

Flood Control Project Maintenance Levee Inspections

Levee Inspection Report By Mile - Fall 2018

Sutter Maintenance Yard Hamilton Bend

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Feather River Hamilton Bend	Right	3.39	09/06/2018 09/06/2018	Sterling York

1.48	Rating **	U	Issue No.		18		
1.99	Issue Type +	Ма	Location *	WS			
Category Earthen Levee				GPS Latitude/Longitude			
			Start		End		
Trim / Thi	Frim / Thin Trees		39.45805	53°	39.461949 °		
Item			-121.63630	00°	-121.629563 °		
DWR ID DWR_ST0005_01_s _ 2017_18							
	1.99 Earthen L Trim / Thi	1.99 Issue Type + Earthen Levee Trim / Thin Trees	1.99 Issue Type + Ma Earthen Levee Trim / Thin Trees	1.99 Issue Type + Ma Location * Earthen Levee GPS La Start Start Trim / Thin Trees 39.45808 -121.63630	1.99 Issue Type + Ma Location * Earthen Levee GPS Latitud Start Trim / Thin Trees 39.458053 ° -121.636300 °		

Comment Code

T3 : Trim and thin trees to allow visibility of the ground and room to flood fight.

Inspector Comment

From Levee Mile 1.38 to 3.39 has never been maintained by the LMA.



View looking upstream of thick trees and vegetation blocking visibility on waterside, looking downstream. Spring 2018.

LM Start	1.48	Rating **	U	Issue No.		11
LM End	3.25	Issue Type +	Ma	Location *	LS	
Category	Category Earthen Levee			GPS Latitude/Longitude		
Calegory			Start		End	
Item	Trim / Thi	n Trees		39.4580	55°	39.470312°
пеш				-121.6363	00°	-121.609242°
DWR ID DWR_ST0005_01_s _ 2017_11						

Comment Code

T3 : Trim and thin trees to allow visibility of the ground and room to flood fight.

Inspector Comment

From Levee Mile 1.38 to 3.39 has never been maintained by the LMA.

Photo 1 of 1 : FA_2018_ST0005_289_11_20181003_00014.jpg



View looking upstream landside and waterside of thick trees blocking visibility on landside, Fall 2018.

Levee Inspection Report By Mile - Fall 2018

Sutter Maintenance Yard Hamilton Bend

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Feather River Hamilton Bend	Right	3.39	09/06/2018 09/06/2018	Sterling York

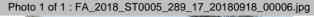
LM Start	1.50	Rating **	М	Issue No.		17	
LM End	1.96	Issue Type +	Ma	Location *	WS		
Category	Earthen Levee			GPS Latitude/Longitude			
Calegory				Start End		End	
Item	Vegetatio	n		39.45813	1°	39.461634	۰
пеш				-121.63591	3°	-121.629926	٥
DWR ID	DWR_ST00	005_01_f _ 2017	7_17				

Comment Code

V2 : Remove the wild growth other than native grasses from the levee slopes.

Inspector Comment

Maintain annual grasses, Fall 2018.





View looking upstream waterside of annual grasses that need to be maintained, Spring 2018.

LM Start	1.50	Rating **	U	Issue No.		6	
LM End	2.63	Issue Type +	Ma	Location *		LS	
Category	Earthen Levee			GPS Latitude/Longitude			
Category				Start		End	
Item	Vegetatio	n		39.4581	32°	39.466025°	
пеш				-121.6359	14°	-121.618972°	
DWR ID DWR_ST0005_01_f _ 2016_6							
		C		l a			

Comment Code

V2 : Remove the wild growth other than native grasses from the levee slopes.

Inspector Comment

Blackberries covering slope. From Levee Mile 1.38 to 3.39. This section has never been maintained by the LMA.

Photo 1 of 1: FA_2018_ST0005_289_6_20180918_00002.jpg



View looking upstream landside of blackberries that are covering the landside slope, Spring 2018.

LM Start	2.46	Rating **	М	Issue No.		10		
LM End	2.48	Issue Type +	Ma	Location *		LS		
Category	Earthen L	evee		GPS Latitude/Longitude				
Calegory				Start		End		
Item	Vegetatio	n		39.4653	70°	39.465410	٥	
пеш				-121.6220	74°	-121.621736	0	
DWR ID	DWR STO	005 01 f 2016	3 10					

Comment Code

 $\ensuremath{\mathsf{V2}}$: Remove the wild growth other than native grasses from the levee slopes.

Inspector Comment

Blackberry bushes are covering landside slope. From Levee Mile 1.38 to 3.39 has never been maintained by the LMA.

Photo 1 of 1: FA_2018_ST0005_289_10_20180918_00003.jpg



View of blackberries that are covering landside slope.

* Location
LS: Land Side N/A: Not Applicable WS: Water Side CR: Crown

** Rating

A: Acceptable N: Not Inspected/Rated M: Minimally Acceptable C: Corrected Ob: Design & System Obsolescence
U: Unacceptable A/W: Acceptable but Monitor & Maintain

** Rating

A: Acceptable N: Not Inspected/Rated M: Ma: Maintenance Deficiency Ob: Design & System Obsolescence
C: Corrected Ob: Design & System Obsolescence
En: Enforcement

Levee Inspection Report By Mile - Fall 2018

Sutter Maintenance Yard Hamilton Bend

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Feather River Hamilton Bend	Right	3.39	09/06/2018 09/06/2018	Sterling York

LM Start	3.23	Rating **	М	Issue No.		4	
LM End	3.27	Issue Type +	Ma	Location *		WS	
Category	evee	GPS Latitude/Longitude					
Calegory				Start		End	
Item	Trim / Thin Trees			39.470063°		39.470558°	
item				-121.6092	64°	-121.609215°	
DWR ID DWR_ST0005_01_s _ 2013_4							
Comment Code							

T3: Trim and thin trees to allow visibility of the ground and room to flood fight.

Inspector Comment

Small trees 4" in diameter at chest height should be removed before they get too big. From Levee Mile 1.38 to 3.39 has never been maintained by the LMA.



View looking upstream waterside of small trees 4" in diameter at chest height should be removed before they get to big, Spring 2018.

LM Start	3.25	Rating **	М	Issue No.		19		
LM End	3.25	Issue Type +	En	Location *				
Category	Supplemental				GPS Latitude/Longitude			
Category				Start		End		
Item	DWR UCIP Field Study			39.47026	9°	39.470269°		
пеш				-121.60922	9°	-121.609229°		
DWR ID	17044					·		

Comment Code

Inspector Comment

FS_ID:47972 DS_ID:17044 EP_NO: N/A

Repair Type: Non-Urgent Crossing Status: Indicator Found

UCIP Comments: 4/26/2016 Unable to access area near structure.5/14/2013 Same as last inpsection.11/14/2012

Abandoned Structure: WS- reminince of gates and concrete standpipe;

LS-reminince of concrete headwall and pump station.

FIELD_STRUCT_DESC: *ABANDONED* [Western Canal Head Gate Inlet Structure] 1 of 2: 96-inch by 96-inch (8-foot by 8-foot) reinforced concrete culverts through the levee 25 feet below the crown. Three slide gates on the waterside (WS) end. Concrete stairs on the WS slope. Concrete headwall at both WS and landside (LS) toes. [Additional Reference(s): DWR Levee Log, 2005. USACE Sacramento O&M Manual 152, March 1957 (Station 170+00)]

FS Date: 5/3/2016 12:36:00 PM

Photo 1 of 3: UCIP_FA_2018_47972_21682.jpg



View of levee crown looking downstream.

Levee Inspection Report By Mile - Fall 2018

Sutter Maintenance Yard Hamilton Bend

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Feather River Hamilton Bend	Right	3.39	09/06/2018 09/06/2018	Sterling York

LM Start	3.25	Rating **	М	Issue No.		19 (cont)	
LM End	3.25	Issue Type +	En	Location *			
Category Supplemental				GPS Latitude/Longitude			
Category	Category			Start		End	
Item	DWR UCIP Field Study			39.4702	69°	39.470269°	
пеш				-121.6092	29°	-121.609229 °	
DWR ID	17044						

Inspector Comment

Comment Code

FS_ID:47972 DS_ID:17044 EP_NO: N/A

Repair Type: Non-Urgent Crossing Status: Indicator Found

UCIP Comments: 4/26/2016 Unable to access area near structure.5/14/2013 Same as last inpsection.11/14/2012

Abandoned Structure: WS- reminince of gates and concrete standpipe;

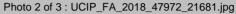
LS-reminince of concrete headwall and pump station.

FIELD_STRUCT_DESC: *ABANDONED* [Western Canal Head Gate Inlet Structure] 1 of 2: 96-inch by 96-inch (8-foot by 8-foot) reinforced concrete culverts through the levee 25 feet below the crown. Three slide gates on the waterside (WS) end. Concrete stairs on the WS slope. Concrete headwall at both WS and landside (LS) toes. [Additional Reference(s): DWR Levee Log, 2005. USACE Sacramento O&M

Manual 152, March 1957 (Station 170+00)]

FS Date: 5/3/2016 12:36:00 PM

LM Start	3.25	Rating **	М	Issue No.	19 (cont)
LM End	3.25	Issue Type +	En	Location *	





View of levee crown at right bend.

Photo 3 of 3: UCIP_FA_2018_47972_21680.jpg



View of levee looking upstream.

Levee Inspection Report By Mile - Fall 2018

Sutter Maintenance Yard Hamilton Bend

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Feather River Hamilton Bend	Right	3.39	09/06/2018 09/06/2018	Sterling York

LM Start	3.25	Rating **	M	Issue No.		20
LM End	3.25	Issue Type +	En	Location *		
Category	Supplemental			GPS Latitude/Longitude		
Calegory	Category			Start		End
Item	DWR UCIP Field Study			39.47026	9°	39.470269°
пеш				-121.60922	29°	-121.609229°
DWR ID	17056					

Inspector Comment

Comment Code

FS_ID:47973 DS_ID:17056 EP_NO: N/A

Repair Type: Non-Urgent Crossing Status: Indicator Found

UCIP Comments: 4/26/2016 Unable to access area near structure.5/14/2013 Same as last inspection.11/14/2012

Abandoned Structure: WS- reminince of gates and concrete standpipe;

LS-reminince of concrete headwall and pump station.

FIELD_STRUCT_DESC: *ABANDONED* [Western Canal Head Gate Inlet Structure] 2 of 2: 72-inch by 96-inch (8-foot by 8-foot) reinforced concrete culvert through the levee 25 feet below the crown. Three slide gates on the waterside (WS) end. Concrete stairs on the WS slope. Concrete headwall at both toes. [Additional Reference(s): DWR Levee Log, 2005. USACE Sacramento O&M Manual 152, March 1957 (Station 170+00)]

FS Date: 5/3/2016 12:37:00 PM

LM Start	3.25	Rating **	М	Issue No.	20 (cont)
LM End	3.25	Issue Type +	En	Location *	

Photo 1 of 3 : UCIP_FA_2018_47973_21697.jpg



View of levee crown looking downstream.

Photo 2 of 3: UCIP_FA_2018_47973_21696.jpg



View of levee crown at a right bend.

Levee Inspection Report By Mile - Fall 2018

Sutter Maintenance Yard Hamilton Bend

Waterway	Bank	Unit Miles	Inspection Start/End	Inspector
Unit No. 01 Feather River Hamilton Bend	Right	3.39	09/06/2018 09/06/2018	Sterling York

LM Start	3.25	Rating **	М	Issue No.		20 (cont)
LM End	3.25	Issue Type +	En	Location *		
Category	Supplemental			GPS Latitude/Longitude		
Category			Start		End	
Item	DWR UCIP Field Study			39.47026	9°	39.470269 °
пеш				-121.60922	9°	-121.609229 °
DWR ID	17056					

Inspector Comment

Comment Code

FS_ID:47973 DS_ID:17056 EP_NO: N/A

Repair Type: Non-Urgent Crossing Status: Indicator Found

UCIP Comments: 4/26/2016 Unable to access area near structure.5/14/2013 Same as last inspection.11/14/2012

Abandoned Structure: WS- reminince of gates and concrete standpipe;

LS-reminince of concrete headwall and pump station.

FIELD STRUCT DESC: *ABANDONED* [Western Canal Head Gate Inlet Structure] 2 of 2: 72-inch by 96-inch (8-foot by 8-foot) reinforced concrete culvert through the levee 25 feet below the crown. Three slide gates on the waterside (WS) end. Concrete stairs on the WS slope. Concrete headwall at both toes. [Additional Reference(s): DWR Levee Log, 2005. USACE Sacramento O&M Manual 152, March 1957 (Station 170+00)]

FS Date: 5/3/2016 12:37:00 PM

Photo 3 of 3: UCIP_FA_2018_47973_21695.jpg



View of levee crown looking upstream at crossing.